

## **AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A head-tracking method ~~in which the~~ for detecting three-dimensional direction movement of the head faces is detected by three axes of a yaw angle that is an angle turning around an erect axis erected on the horizontal surface of the head, and a pitch angle and a roll angle that are angles formed by said erect axis and two axes perpendicular thereto, wherein using three axes as points of reference, an x-axis extending in a right-to-left direction of the head, a y-axis extending in a front-to-back direction of the head, and a z-axis perpendicularly traversing a horizontal surface of the head, the method comprising:

[[said]] calculating a yaw angle is judged from [[the]] an integral value of [[the]] an output of a gyro sensor, the yaw angle representing an angle rotating about the z-axis; [[and]]

[[said]] calculating both a pitch angle and [[said]] a roll angle are calculated from [[the]] an output of a two-axis tilt sensor ~~which detects the inclination of a plane that intersects the direction of said erect axis at right angles,~~ the pitch angle being formed between the z-axis and the y-axis, and the roll angle being formed between the z-axis and the x-axis; and

correcting the yaw angle calculated from the output of the gyro sensor using the calculated pitch angle and roll angle.

2. (Currently Amended) ~~[[A]]~~ The head-tracking method according to claim 1, wherein a period ~~to judge for calculating~~ the yaw angle from the output of ~~[[a]]~~ the gyro sensor is shorter than ~~[[the]]~~ a period ~~to calculate for calculating~~ the pitch angle and the roll angle from the output of ~~[[said]]~~ the tilt sensor.

3. (Cancelled)

4. (Currently Amended) A head-tracking device ~~in which the~~ for detecting three-dimensional ~~direction~~ movement of the head ~~faces is detected by three axes of a~~ yaw angle that is an angle turning around an erect axis erected on the horizontal surface of the head, and a pitch angle and a roll angle that are angles formed by said erect axis and two axes perpendicular thereto using three axes as points of reference, an x-axis extending in a right-to-left direction of the head, a y-axis extending in a front-to-back direction of the head, and a z-axis perpendicularly traversing a horizontal surface of the head, comprising:

a gyro sensor for detecting ~~[[said]]~~ a yaw angle, the yaw angle representing an angle rotating about the z-axis;

a two-axis tilt sensor which detects the inclination of a plane that intersects the ~~direction of said erect axis at right angles~~ for detecting both a pitch angle and a roll angle, the pitch angle being formed between the z-axis and the y-axis, and the roll angle being formed between the z-axis and the x-axis; and

calculation means ~~to judge~~ for calculating the yaw angle from ~~[[the]]~~ an integral value of ~~[[the]]~~ an output of ~~[[said]]~~ the gyro sensor, and ~~to calculate said~~ the pitch angle and ~~[[said]]~~ the roll angle from ~~[[the]]~~ an angular velocity output of ~~[[said]]~~ the tilt sensor, wherein the calculation means performs a correction of the yaw angle calculated from the output of the gyro sensor using the calculated pitch angle and roll angle.

5. (Currently Amended) ~~[[A]]~~ The head-tracking device according to claim 4, wherein, with respect to ~~[[said]]~~ the calculation means, a period ~~to judge~~ for calculating the yaw angle from the output of ~~[[said]]~~ the gyro sensor is shorter than ~~that to calculate~~ a period for calculating the pitch angle and the roll angle from the output of ~~[[said]]~~ the tilt sensor.

6. (Cancelled)